SUMMARY

This bulletin provides requirements for interconnecting, 3rd party telecommunication equipment installed on Municipality (non-PG&E) steel streetlight poles, to the PG&E electric distribution system. These interconnections are allowed only for Municipality-owned steel streetlight poles that are on a LS-2 rate schedule.

With PGE providing power, the single Municipality-owned service wire supplies both the 3rd-party telecommunication and antenna equipment as well as the unmetered street lights installed on the Municipality owned steel pole.

Level of Use: Informational Use

REFERENCE DOCUMENTS

027911, Installation Details for Service to Pole-Mounted Communication Equipment

TD-027911B-002, SmartPole Meter for Service to Pole-Mounted Communication Equipment

TARGET AUDIENCE

PG&E: Utility employees, electric construction employees, customer service representatives, service planning employees, electric estimators

Non-PG&E: Municipalities, Communication Companies, Electrical Contractors, Installers, and Designers

WHAT YOU NEED TO KNOW

General Information

1   A PG&E Absolving Service Agreement is required to be signed when Municipality owned services, supplying power to non-PG&E owned steel streetlight poles with communication and antenna equipment, are interconnected to the PG&E distribution system. Contact the PG&E Service Planning office for an explanation of an Absolving Service Agreement. If needed, PG&E personnel can contact the Tariff Interpretation or Law departments for guidance.

2   If the antenna is installed on the top of the street light pole in a radome shroud housing the antenna and metering equipment, then the shroud must be made of fiberglass or other material that does not inhibit the transmission of the wireless meter signal. The shroud or a part of the shroud must be removable or open, without the use of special tools, to allow direct access to the meter inside. See Figure 19. A shroud is not required if the antenna and SmartPole meter are installed below pole top as shown in figures 6 through 8.

Note: Other designs for the placement of the antenna and metering equipment not in compliance with the requirements described in this bulletin are not being accepted.
A 2-wire (1-hot, 1-neutral) 120 volt single-phase service must be installed from the PG&E specified splice box to the pole or from a municipality owned splice box to the pole if part of a municipality owned street light distribution system. A 2-wire 120 volt single-phase service is the only type of service allowed to power the SmartPole meter along with the municipality and 3rd party equipment. The municipality service wire must be sized as needed to accommodate all metered and unmetered loads.

Note: In very limited locations if an existing PG&E 2-wire single-phase 240 volt secondary system is available the SmartPole meter may be connected. These locations are not common.

**CAUTION:** Do not install a 3-wire 1-phase 120/240 volt service as this is the incorrect wiring and voltage for the SmartPole metering application.

A PG&E SmartPole meter and enclosure is required for these installations. Refer to pages 11, 13, 15, and document **TD-027911B-002** for ordering the correct PG&E SmartPole meter enclosure type.

5.1 The customer load must not exceed 16 amps for non-transformer rated SmartPole meters.

5.2 The customer load must not exceed 68 amps for transformer rated SmartPole meters.

6 The antenna, communication equipment, and street light must be powered from the same municipality owned service. A second or separate municipality owned service is not allowed.

7 **Disconnect Switch Requirements:** A lockable disconnect switch must be installed and meet all of the following requirements below. This includes the Meter & Disconnect combination enclosure shown in Figure 7.

7.1 The switch must be readily accessible at all times. The switch will be used as part of the normal or emergency shutdown protocols required in California Public Utility Commission (CPUC) General Order 95, Rule 94.

7.2 The switch must de-energize all power supplies, including back-up power, and any communication equipment emitting Radio Frequencies (RF). Signage must be attached to the switch identifying what equipment it will de-energize.

7.3 The switch must not de-energize (turn off) the street light(s) or the PG&E Smart Meter. See the Single Line Drawing in Figure 8.

7.4 If using an individual disconnect switch it must be attached externally on the pole less than 10 feet above grade and more than 4 feet above grade, as measured to the bottom of the switch enclosure.

Note: The local authority having jurisdiction of inspection may have minimum and maximum height requirements that must also comply besides the PG&E requirements.

7.5 If using the combination meter and disconnect switch enclosure (Figure 7) the maximum height is 8 feet above grade and the minimum height is 7 feet above grade, as measured to the bottom of the switch enclosure.

7.6 The disconnect switch may be located inside an equipment pedestal, installed around the base of the pole, (see Figures 2 through 5) if all of the specific requirements below are met.
1. A permanent and dedicated side hinged access door with locking provisions dedicated only for a PG&E pad-lock (5/16” Shaft) must be provided to allow easy access to the disconnect switch.

2. This disconnect switch access door can be part of a larger maintenance door if needed.

3. The disconnect switch should be installed towards the upper half of the pedestal and not less than 18” above grade, as measured to the top of the switch.

4. Lock boxes, shared keys, or other locking methods are not acceptable.

7.7 The switch may not be installed inside the pole (except inside the pedestal), in a subsurface enclosure, or in a remote location away from the pole.

7.8 Provisions for locking the disconnect switch in the off position are required.

8 Poles must have signage that meet FCC guidelines for the antennas and communication equipment emitting RF transmission. Sites must be signed according to FCC guidelines.

9 Antennas and power units must have an ownership label with the company’s name, contact number, and site identification information.

10 All materials, except the PG&E meter, must be furnished and installed by the municipality. This includes the meter and disconnect switch combination enclosure or the 3-pin socket and provisions for the meter to be securely attached inside the shroud. The PG&E Meter Engineering department will review and determine approval of these attachment provisions for the meter.

11 The metering provision contained herein is an exception to the Greenbook requirement and is only intended for Wi-Fi, cable TV power supplies, and other telecom equipment requiring metering. Refer to, Tariff Application Guide – Electric Rule 9. Do not connect any other types of load to this service except for antenna and communication equipment, and street lights.

12 The local Authority Having Jurisdiction (AHJ) of inspections for the city or county must provide approval of final inspection and meter release before PG&E will install a meter and energize the municipalities electric service.

13 A PG&E inspector or Trouble Man (T-Man) must inspect the installation to verify the requirements in this document have been met.

14 PG&E vehicle (bucket truck) access up to and around the pole is required at all times. This includes a road which allows the PG&E vehicle to drive up next to the pole and have, but not limited to, an adequate area to back up, maneuver, exit, and extend its outriggers. This vehicle drive-up access is required for the installation, maintenance, and troubleshooting of the PG&E meter.

15 For service connections to steel poles that are not on a LS-2 rate, or if the requirements in this document cannot be met, then the PG&E approved method of providing service to a pad-mounted metering pedestal must be used.
Overhead Service Requirements: See overhead service Figures 8 and 9 on pages 9 and 10. The PG&E overhead service must only terminate at or be attached to streetlight poles with or without an antenna installed on it. The PG&E service must not be attached to poles that do not receive service. The following clearances must be shown and described on drawings submitted to PG&E.

16.1 The vertical clearance, above grade, of the overhead electric service at the pole, as well as above any thoroughfares and walkable areas.

16.2 The vertical clearance, above grade, of the overhead electric service above any thoroughfares and walkable areas. Refer to Greenbook Section 4.4.4. Vertical Clearance on Nonresidential Property.

16.3 The vertical clearances, at the pole, above and below the PG&E overhead electric service, to all equipment attached on the pole.

16.4 Radial clearances from the overhead electric service to any structure, pole, and/or equipment along the path of the service wire from pole to pole. Identify and label the type of structure or equipment, if any.

16.5 A PG&E approved pole band (material code M188205) attachment must be permanently installed on the pole by the applicant. For overhead services that dead-end at the pole install a part 1 spool and clevis-type insulator (material code M315002) to the pole band for the PG&E service to attach to. For tangent overhead services that continue on to serve another streetlight pole install a part 8 spool and clevis-type insulator (material code M315034) to the pole band.

16.6 Applicant cables must extend a minimum of 36 inches from the pole. This will allow PG&E to create a drip loop when connecting the service cables.
PG&E Metering and Service Connections For Non-PG&E Owned Steel Streetlight Poles With Antenna and Communication Equipment

![Diagram](image)

Figure 1 – Underground Service - Municipality Owned (Non-PG&E) Steel Streetlight Pole with Antenna and Communication Equipment
Figure 2 – Underground Service - Municipality Owned (Non-PG&E) Steel Streetlight Pole with Antenna, Communication Equipment, and with Equipment Pedestal at Base
PG&E Metering and Service Connections For Non-PG&E Owned Steel Streetlight Poles With Antenna and Communication Equipment

Figure 3 – Equipment Pedestal Base with Disconnect Switch Inside Small Access Door

Figure 4 – Locking Provisions Dedicated for PG&E Padlock on Small Access Door

Figure 5 – Equipment Pedestal Base with Large and Small Access Doors
PG&E Metering and Service Connections For Non-PG&E Owned Steel Streetlight Poles With Antenna and Communication Equipment

Figure 6 – Underground Service - Municipality Owned (Non-PG&E) Steel Streetlight Pole, with Meter Disconnect Switch Combination Enclosure and Antenna and Communication Equipment
Figure 7: Underground Service - Municipality Owned (Non-PG&E) Steel Streetlight Pole with 100A Meter Enclosure, Disconnect Switch Enclosure and Antenna and Communication Equipment
Figure 8: Overhead Service - Municipality Owned (Non-PG&E) Steel Streetlight Pole with Antenna and Communication Equipment
Figure 9: Overhead Service - Municipality Owned (Non-PG&E) Steel Streetlight Pole with Antenna and Meter in a Shroud
Figure 10 – Meter and Disconnect Switch Combination Enclosure

Note: The Tesco Advent, Meter & Disconnect enclosure Unit, Catalog # 700 Part # 700-300, includes a NEMA 3R enclosure with 3-wire receptacle, internal ground/bond lug and meter strap. To order use the PG&E material code M241677 and contact John Greenewald at (609) 864-3358 or John.Greenewald@adventdesign.com.
Figure 11 – Wiring for Meter and Disconnect Switch Combination Enclosure
Figure 12: Transformer Rated SmartPole Meter and Enclosure

Note: The Tesco Advent, Transformer Rated Meter Enclosure Unit, Catalog/Part # 8439-0005, includes a NEMA 3R enclosure with 4-wire receptacle, internal ground/bond lug and meter strap. To order use the PG&E material code M24-1692 and contact John Greenewald at (609) 864-3358 or John.Greenewald@adventdesign.com.
Figure 13: Transformer Rated SmartPole Meter And 4-pin Socket

Figure 14: Wiring Diagram Transformer Rated SmartPole Meter
Figure 15: SmartPole Meter and Enclosure Unit with Pole Bracket

Note: The Tesco Advent - Enclosure Unit, Catalog # 700 Part # 700-200, includes NEMA 3R enclosure with 3-wire receptacle, internal ground/bond lug, meter strap, and pole bracket. To order use the PG&E material code M24-1572 and contact John Greenewald at (609) 864-3358 or John.Greenewald@adventdesign.com.
PG&E Metering and Service Connections For Non-PG&E Owned Steel Streetlight Poles With Antenna and Communication Equipment

Figure 16
Non-Transformer Rated SmartPole Meter

Figure 17 – 3-Pin Receptacle

Figure 18 - Wiring Diagram For 3-Pin Receptacle
Figure 19 – Single Line Drawing
Figure 20 – Radome Shroud Pole Top Detail
**Utility Bulletin: TD-027911-B004**

**PG&E Metering and Service Connections For Non-PG&E Owned Steel Streetlight Poles With Antenna and Communication Equipment**

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**NON EMERGENCY NODE SITE POWER SHUT DOWN PROCEDURES**

1. **FOR NON EMERGENCY/SCHEDULED POWER SHUT DOWN**
   - CALL [INSERT NAME OF COMMUNICATION COMPANY AND PROVIDE PHONE NUMBER]
   - PROVIDE SITE NUMBER IDENTIFIED ON SITE NUMBERING STICKER
   - PROVIDE DURATION OF OUTAGE
   - TURN DISCONNECT HANDLE TO “OFF” POSITION
   - POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES
   - NOTIFY [INSERT NAME OF COMMUNICATION COMPANY; UPON COMPLETION OF WORK]
   - RESTORE POWER BY PLACING POWER DISCONNECT HANDLE IN THE “ON” POSITION
   - REINSTALL LOCK ON POWER HANDLE

2. **EMERGENCY POWER SHUT OFF**
   - CALL [INSERT NAME OF COMMUNICATION COMPANY AND PROVIDE PHONE NUMBER]
   - PROVIDE SITE NUMBER IDENTIFIED ON SITE NUMBERING STICKER
   - PROVIDE DURATION OF OUTAGE
   - TURN DISCONNECT HANDLE TO “OFF” POSITION
   - POWER SHUT OFF VERIFICATION WITH APPROVED PG&E PROCEDURES
   - NOTIFY [INSERT NAME OF COMMUNICATION COMPANY; UPON COMPLETION OF WORK]
   - RESTORE POWER BY PLACING POWER DISCONNECT HANDLE IN THE “ON” POSITION
   - REINSTALL LOCK ON POWER HANDLE

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**Figure 21 - Shut Down Procedure Sign**

![Shut Down Procedure Sign](image1)

**Figure 22 - Sample RF Sign**

![Sample RF Sign](image2)
PG&E Metering and Service Connections For Non-PG&E Owned Steel Streetlight Poles With Antenna and Communication Equipment

Figure 23 – Sample Terminal Connector

DOCUMENT APPROVER

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INCLUSION PLAN

There is not any inclusion plan for this document at this time.

DOCUMENT REVISIONS

1. Updated notes 2 and 5.
2. Added new note 16 about overhead service attachments.
3. Updated Figures and Titles 1, 2, 6, and 7.
4. Added new Figures 8 and 9 for overhead service attachments and Figure 15.
5. Added material code ordering information below Figure 12, transformer rated SmartPole meter enclosure unit, and Figure 15, SmartPole Meter and Enclosure Unit with Pole Bracket.
6. Renumbered and reorganized similar Figures throughout the document.